

ABSTRACT OF THE DISCLOSURE

A demodulator for automatically performing quadrature control in which there is no necessity for the modulator side to perform precision adjustment and deterioration in characteristics e.g., error rate is suppressed for long. The demodulator includes a quadrature controller fed with an in-phase component and a quadrature component output from the quadrature detecting unit to correct quadrature error between phases of in-phase and quadrature signals based on a quadrature error signal, an automatic gain controller AGC outputting in-phase and quadrature components of a demodulated signal corrected for amplitude errors by an amplitude error signal, an error detection unit fed with in-phase and quadrature components of the demodulated signal to output in-phase and quadrature components and polarity signals, an amplitude error detector outputting in-phase and quadrature components of the amplitude error to the AGC based on the in-phase and quadrature components and the respective polarity signals, and a quadrature error detection unit generating a quadrature error signal Q_d based on the in-phase and quadrature components and the polarity signals to output the generated quadrature error signal to the quadrature controller.